1: Radcliffe-Brown E-5 (1906-1908)1922
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411 the actual figures ranging from 2·1 to 1·3 cm. From the middle the bow tapers slightly towards each end. At a distance of 7 cm. from the end of the bow the average breadth is 1·8 cm., and the average thickness 1·2 cm.

The flatter side is the inside of the bow. Referring to the figures, the side marked *A* is that which faces a man as he holds the bow ready to shoot (called here the inside). *C* is thus the right-hand side and *D* the left-hand. By breadth is meant the distance from *C* to *D*, and by thickness the distance from *A* to *B*.

At each end of the bow there is a shoulder, as shown in Fig. 2. The length from the shoulder to the end of the bow, i.e. the length of

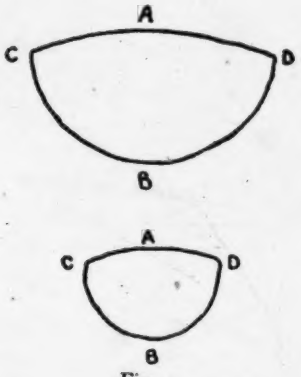

Fig. 1

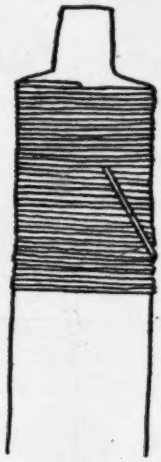

Fig. 2

Fig. 1. Section of Little Andaman bow, in the middle and near the end
Fig. 2. Shoulder of Little Andaman bow

the point on which the string is looped, is about 10 to 12 mm. Both ends are the same. For a few centimetres below the shoulder the bow is served over with string or fibre. In a carefully finished bow the serving is usually done with ornamental string, i.e. with string round which is twisted the dried yellow skin of the *Dendrobium*. In other examples plain string is used, or a strip of twisted *Ficus* fibre, or even nowadays a twisted strip of cotton cloth.

Bows are never ornamented in the Little Andaman either with paint or with incised patterns.

411 283 The bow-string of the Little Andaman is made of strips of the bark of the *Ficus laccifera*. The number and width of the strips used

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depend on the size of the bow. In a small bow now in the Cambridge Museum the string is made of a single strip of bark about 1 cm. in width. This strip is simply twisted, the twist being that of a right-hand or male screw. When two strips are used they are not twisted around one another in the way that a two-ply rope is made, but are laid flat together and twisted together, so that when the string is finished only one of the strips is visible, the other being inside. In a stout string for a large bow three or four strips may be twisted together in this way. The bow-string is not a rope, but a twisted strand (Fig. 3.)

Fig. 3

Fig. 4

Fig. 3. Bow-string of twisted fibre, Little Andaman
Fig. 4. Diagram showing the method of making the loop in the end of the Little Andaman bow-string

At one end of the string a loop is made, as shown in Fig. 4. The end is doubled over to make a loop of the right size, a round turn is made over the standing part (*A*) and the end (*B*) is twisted in with the standing part by untwisting the latter, laying the end in, and twisting up again. If this splicing, as it may perhaps be loosely called, be not sufficiently secure, it is served over or stopped with finer fibre of the same kind. This loop is of sufficient size to slip down over the shoulders. At the other end the string is attached to the peg either with a knot, or else by means of a small loop (just large enough to go over the peg, but not large enough to slip over the shoulder) made in

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411 Bows of this kind vary in length between 180 and 210 cm., the most usual length being between 190 and 195 cm. At the upper end the bow is brought to a point approximately circular in section. From this point it broadens out until, at a distance of about 50 or 55 cm., or between one-quarter and one-third of the length of the bow, it reaches its maximum breadth, which is, on the average, about 5·5 cm. The section of the bow at this point is convex on the outer side, while on the inner side it may be flat or slightly concave, or even in rare instances slightly convex. In many specimens there is a very slightly raised keel running down the middle of the inside of the bow. The thickness of the bow at the point mentioned is usually 1·5 to 1·75 cm., and there is little variation in this respect in different specimens. (See Fig. 8.)

At the middle the bow decreases in breadth and increases in thickness to form a handle. At the handle the usual section may be described as pear-shaped, the greatest diameter being the thickness (from inside to outside) and not the breadth.

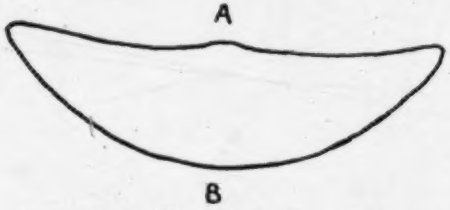

Fig. 8. Section across the blade of a South Andaman bow

From the handle towards the lower end the bow again increases in breadth, so that the lower portion is about the same breadth and thickness as the upper portion. At the lower end it tapers to a point, circular in section, but the point is blunter than at the upper end.

Thus the whole bow consists of a leaf-shaped upper portion or blade which is straight (i.e. neither curved inwards nor outwards), a waist or handle, and a lower blade that is curved backwards or outwards at about its middle, this being the position of the bend in the wood from which it is cut. A bow of this type is shown in Plate v.

Near each end the bow is served over with string for a distance of 3 or 4 cm., leaving a bare point at the upper end of about 7 cm. long, and a point at the lower end of about 1·5 cm. (Fig. 7.)

411 283 A bow-string is made from the fibre of the *Anadendron*. A number of strands of the fibre are taken and are waxed with black bees'-wax. Four of these strands are taken, three of them are placed together and

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the fourth is wound spirally round them. When the end of the active strand (the one being twisted round the others) is neared, a new strand is taken and laid in. The twisting is continued for a few turns and the newly inserted one is then taken, the end of the first active strand being laid in and wound over in its turn. The process continues in this way, new strands being added until a cord of sufficient length has been made. This is again waxed over on the outside.

At one end of the cord a knot is tied. At the other end a loop or eye is formed. To make this eye, when the cord is of sufficient length, the end of it is bent over to form a loop of about 1 cm. or a little more in diameter. This loop is then served over with thread made of *Anadendron* fibre. The serving is continued over the neck of the loop for about 1·5 cm. This gives an eye with the appearance shown in Fig. 9. A loose strand of fibre is left at the neck of the loop. This is wound spirally over the cord, as described before, new strands being added one after another until the cord has been treated in this way for about 35 cm. from the eye. It is then stopped by serving it over for

Fig. 9. Loop of bow-string, South Andaman

about 2 cm. with *Anadendron* thread. It is clear from this description that the cord is somewhat thicker for about 35 cm. from the end with the eye than it is in the rest of its length.

To string the bow the knotted end of the bow-string is fastened round the top end of the bow with a slip knot, so that it rests on the top of the string serving. The bow is then turned upside down and the top end (now temporarily at the bottom) is fixed in the ground or against a stone, so that it will not slip. The other end of the bow is taken by the left hand, while the cord is held in the right, the right foot is placed against the handle or middle of the bow and the bow is bent, the end held by the hand being drawn towards the operator until he is able to slip over it the eye or loop at the end of the string.

After the bow has been strung the upper portion, which before was straight, is now curved inwards, and the bow therefore appears as S-shaped when seen from the side. When a man starts out hunting or fishing he strings his bow and tests it, and it remains strung till he returns, when he unstrings it and places it in his hut.

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411 from the end the section is slightly flattened or oval, and the maximum diameter (the breadth from side to side) is about 1·5 cm. From this the bow broadens fairly rapidly, until at a distance of about 60 cm. from the end it is 7 cm. broad. The section at a point 60 cm. from the end is shown in Fig. 11, where it may be seen to be convex on the outside and only very slightly convex on the inside. At about 75 cm. from the end the bow narrows in breadth to form a handle, at the same time increasing slightly in thickness. The handle is approximately circular in section in the middle, which is about 95 cm. from the upper end, and about 80 cm. from the lower end, the diameter being about 2·2 cm. Below the handle the bow broadens out once more into a lower blade which in shape and section is similar to the upper blade. At a distance of about 30 cm. from the lower end the bow once more narrows off to a point approximately circular in section. The lower point of the bow is not so long or so tapering as the upper point.

The whole bow thus consists of two blade-shaped portions tapering to a point at each end, and with a waist or handle between them. The upper blade is straight, i.e. is not curved either outwards or inwards. The lower blade is curved outwards (like that of the South Andaman bow) in nearly every newly made bow and in every bow that has been in use.

The upper part of the bow is served over with string for about 1·5 cm. (at a distance of 15·5 cm. from the end in the bow that has been described), and the lower end is similarly served (at a distance of 6 cm. from the end). The general shape of the bow as seen from inside is shown in Fig. 12.

• 283 411 The bow-string of the North Andaman is made from *Anadendron* fibre in much the same way as described in connection with the South Andaman bow, but in the North there is a loop or eye at both ends of the string. As soon as the first few centimetres of the cord have been made (by the method previously described) it is bent over into a loop, and this loop is served with *Anadendron* thread, just as in the case of the South Andaman string. The making of the string then proceeds in the usual way until a sufficient length has been made, this depending, of course, on the length of the bow for which it is intended. The end is then bent over into a loop, and this loop is served over with thread. The loose end of fibre is not in this case (as it is in the South Andaman string) twisted round the standing part of the cord, but is laid beside it, and the thread that has been used for serving is wound spirally round them both for a distance of about 10 cm. from the neck of the loop, so that the end is stopped.

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411 cut, and the arrow is served with thread of *Anadendron* fibre for about 1·6 cm. above the nock, in order to prevent splitting. At the other end the shaft is hollowed out to a depth of about a centimetre. This hollowing is done with the point of a fish-arrow or other similar piece of pointed iron. For a distance of about 1·5 cm. the end of the shaft is served over with thread of *Anadendron* fibre, so as to prevent it from splitting.

The fore-shaft consists of a piece of tough wood one end of which is cut to such a size that it will fit fairly tightly into the hollow at the end of the shaft. At the other end it is split so as to admit the head.

411 325 The head consists of a piece of iron broken into shape with the aid of a stone hammer and then ground down and sharpened on a whetstone or with a file if one be obtainable. The usual shape is shown in Fig. 17. The head is inserted into the split end of the fore-shaft and the end of the latter is then served over with thread. A few centimetres below the head either one or two sharp-pointed pieces of iron wire are placed against the fore-shaft in the same plane as the head and are bound firmly to it with the thread, so as to provide a barb or barbs.

411 283 A cord is made and one end of it is attached to the shaft and the other end to the fore-shaft. This cord is made as follows. A number of strands of *Anadendron* fibre are taken and waxed with bees'-wax. These are made into a cord by the same method as that described in connection with the Great Andaman bow-string, one strand being wrapped round the others. About 40 cm. of single cord is made in this way and the two ends are tied together. A piece of elastic wood is bent into the form of an arc and the loop of cord is placed over this so that it is stretched tight. A length of thread (of *Anadendron* fibre) is made and wound on to a fine netting needle or on to a thin slip of wood, and the two cords as they are stretched side by side are bound together with this thread by the process known as "nippering" (Fig. 19). In this way a firm and strong flattened cord is produced. One end of this is fastened to the fore-shaft immediately above the end that fits into the shaft. The other end is fastened to the shaft a few centimetres from the end, leaving a short length of the shaft around which the cord may be spirally wound when the arrow is in use. (Fig. 18.)

411 Finally, the thread on the fore-shaft, i.e. that which holds the head and barbs in place, and also that which serves to attach the end of the cord, are covered with the composition already described as used on fish-arrows.

7/1 [Head of pig-arrow — Analyst]

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411 whet-stone. The natives are always eager to obtain files which enable
412 them to do this part of the work much more rapidly. When the arrow-
325 head has been ground into shape the edges are sharpened. Blades for adzes are made in exactly the same way from any suitable piece of iron or steel, such as a cutlass or an old file or a piece of thick hoop-iron. The adze-blade is attached to a handle of mangrove wood by the method shown in Fig. 28.

The barbs of pig-arrows and the points of fish-arrows are made in the same way by breaking the metal into a suitable shape and then grinding it on a whet-stone. It is probable that this was the method that was formerly used for dealing with bone for these purposes.

In the case of the knife, iron or steel is now substituted for cane or bamboo, but the knife has retained its shape in spite of the change of material. The shape of a knife, whether of cane or of iron, with its attached skewer of *Areca* wood is shown in Fig. 28.

In the case of the harpoon the native tradition is that this implement was only made after they had discovered the use of iron.

177 At the present time both the Semang and the Negritos of the Philippines make use of iron. The Semang heat the iron until it is
325 red-hot and then batter it into shape between two stones[1]. The shapes of the iron weapons and implements which they make follow fairly closely those made by the Malays.

In an attempt to reconstruct the primitive Negrito culture it would seem that the most reasonable hypothesis is that the primitive Negritos had no knowledge of iron and had not learnt to fashion implements out of stone, but relied entirely on such materials as wood, bone and shell. The Andamanese, becoming possessed of iron through wrecks upon their islands, applied to it the technique that they had developed for dealing with shell, and thereby invented their present method of working iron without heating it. The Semang and the Negritos of the Philippines probably first learnt the use of iron from their neighbours of other races. There is not at present any evidence to show that the Negritos ever had any method of working stone except the very simple one at present in use in the Andamans for making flakes.

String, Rope, Mats, Baskets, and Netting.

283 For string, rope and thread the Andaman Islanders make use of a number of different vegetable substances, but they make no use what-

[1] Skeat, p. 383.

1: Radcliffe-Brown E-5 (1906-1908)1922
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ever of any animal substances. Some of the more important fibres, with their uses and the methods of preparing them, are mentioned below.

The bark of the *Hibiscus tiliaceus*, which occurs in the beach vegetation in all parts of the islands, provides the Andamanese with one of their most important fibres. By the coast-dwellers of the Great and Little Andaman Divisions it is used for making rope. In the Great Andaman Division the rope made from it was formerly used for making turtle nets, and is now used for the lines of turtle harpoons, and for hawsers to attach a canoe either to a stone used as an anchor or to a tree. No other fibre is used for these purposes. The *Hibiscus* rope does not seem to be much affected by salt water. The forest-dwellers of the Great Andaman have less use for rope, and at the same time are not able to obtain so readily the *Hibiscus* fibre. What rope they do have is therefore obtained from the coast-dwellers or is made of some other fibre. In the Little Andaman the *Hibiscus* is regularly used for rope. It is also used for the short cord by which the detachable head of the pig-arrow is attached to the shaft. In the Great Andaman a strip of the bark of the *Hibiscus* is used for the sling in which children are carried. Strips of the bark are worn by the women of the Little Andaman across their shoulders and breasts, as a sort of ornament.

To obtain the fibre young straight shoots of about 120 cm. in length are cut from the tree, those free from gnarls, and having a smooth bark, being chosen. The bark (inner and outer layers) is peeled off in strips of from 1·5 to 3 cm. in width. The inner or liber layer is then separated from the outer layer of the bark, is well scraped with a *Cyrena* shell and dried in the sun or over a fire. When dry it is worked in the hands until the various layers of fibre separate one from another. It is then ready to be made into rope. The fibre is interlacing, and when freshly made is a lustrous greyish brown. After exposure to salt water it turns a dark brown.

Mr E. H. Man, in his work on the Andamans, speaks of the *Melochia velutina* as providing fibre for rope. This is an error. The tree to which Mr Man refers is the *Hibiscus tiliaceus*. It is extremely common on the shores of the islands, as it is in many other parts of the tropics. It is very easily identified, as it bears its characteristic yellow flowers for a long time every year. There is no doubt whatever that this is the tree from which the natives regularly obtain the fibre for the rope they use in turtle-hunting and fishing and in their canoes. Other writers, following Mr Man, have repeated his error in calling it

1: Radcliffe-Brown E-5 (1906-1908)1922
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the *Melochia velutina*, for example Sir Richard Temple and Mr Portman. In Mr Portman's collection of photographs in the British Museum there is a good photograph of a *Hibiscus tiliaceus* tree labelled "*Melochia velutina*." I looked carefully in the Andaman jungles for the *Melochia velutina* but was unable to find it, and I am quite certain that in any case, even if it be found there, it is not commonly used by the natives for rope.

The bark of a number of other trees provides fibre of which the natives occasionally make use. Amongst these are one or more species of *Sterculia* (*S. villosa* ?), and a tree that I identified somewhat doubtfully as *Grewia laevigata*. The coarse fibre of the liber layer of these trees may be made into rope by the same method as that employed in dealing with *Hibiscus tiliaceus*. Very little actual use is made of them however. A fibre which looks very like that obtained from one species of *Sterculia* is frequently used by the natives of the Little Andaman (and also by the Jarawa) for their personal ornaments. Mr Portman says that this fibre is obtained from the *Celtis cinnamonea*.

A species of *Hibiscus*, which I believe is *Hibiscus scandens*, growing in the jungles and not along the shore, provides a fibre that is prized by the natives of the Great Andaman tribes for making string or fine rope. The fibre is less easily obtained than that of the *Hibiscus tiliaceus*, but owing to its quality (it is not so interlacing) is capable of being made into finer rope and string. It is often made into string and then used for making netted bags. I did not find this fibre in use in the Little Andaman, but as it is not very often met with even in the Great Andaman, it may possibly be used in the Little Andaman.

There are several species of *Ficus* in the Andaman forests, and the natives know that they can obtain fibre from the bark of these trees. The only one that is regularly made use of is the *Ficus laccifera*. The natives of the Great Andaman Division use the bark of this tree for making their personal ornaments. In the Little Andaman it is used for bow-strings. A fibre called in the Little Andaman *ulu*, and said by Mr Portman to be obtained from the *Ficus hispida*, is used in that island, and by the Jarawa, for making personal ornaments.

The *Gnetum edule*, a climbing plant that is fairly common, is used in all parts of the Andamans for thread and string. The creeper is cut into short lengths at the nodes and is dried for a few days. The outer layer of bark is then scraped off with a *Cyrena* shell, and the liber layer beneath it is peeled off in fine strips and these are made into thread or string. This string is used in the Great Andaman Division for making

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netted bags and fishing nets. In the Little Andaman it is used for binding their arrows, as well as for netting. 824 283

The most valuable fibre of the Great Andaman tribes is that of the *Anadendron paniculatum*, which is used for string and thread and for bow-strings. Until recent times the method of preparing the fibre was not known to the natives of the Little Andaman, but they have now learnt it from the natives of the Great Andaman with whom they have been brought in contact, and the use of the fibre for string and thread is coming in amongst them.

The fibre is not easy to prepare. Long thin branches of the creeper are cut, which must be neither too young nor too old. To obtain these it is often necessary to climb up into high trees, for the *Anadendron* is a climbing plant. The creeper is cut into lengths of from 20 to 40 cm. The bark (inner and outer layers) is peeled off these in strips of from 7 to 10 mm. in width. A strip of the bark is taken and placed on the thigh, inner surface downwards, and is scraped with a *Cyrena* shell until the outer bark is entirely removed and the fibres remain clean and separate. These are dried in the sun or over a fire and, if not needed for immediate use, are stored for future occasion. The fibre is fine and of a light greyish brown colour. In its qualities it somewhat resembles ramie fibre. It is extremely strong.

There are a number of other trees and plants that are known by the natives to afford fibre, but they are not used, or if they are, it is extremely rarely.

The Andaman jungles have a number of different species of *Calamus*, and the canes or rattans of these are put to all sorts of uses, such as the making of baskets, the lashings and furnishings of canoes, and in building huts. In the Little Andaman one species of cane is used to provide the fibre for women's belts. The outer skin is removed and the remainder of the cane is divided into fine strips or threads. A bundle of these tied together constitutes the belt worn by the women of the Little Andaman. The outer sheath of the leaf-stem of the *Calamus tigrinus* is used by the natives of the Great Andaman Division for making mats. Lengths of the leaf-stem are cut and the outer skin is removed in strips of about 3 to 5 mm. in width. The still adhering pith is removed with a *Cyrena* shell, and the strips are dried in the sun and then made into mats. 824 285 [301] [291]

The leaf-stem of a species of palm is cut while green and is then shredded into long strips. The fibre thus obtained really consists of the leaflets of the young unopened leaves of the palm. It is used in the 824 291

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AZ2 Andamans AZ2

824 291 Little Andaman to make the tassel that women wear over the pudenda. The women of the North Andaman formerly wore a tassel of this fibre, but have now discontinued the custom, since their contact with the South Andaman. In the Great Andaman tribes this material has 824 important ceremonial uses. It is called *kəro* in Aka-Jeru and *ara* in Aka-Bea, and has been frequently mentioned in this volume. A tassel of the fibre is suspended near the grave of a dead person and at the entrance of the village at which the death took place. In the North Andaman a suspended cane hung with a fringe of the fibre is erected for the peace-making ceremony. (See Plate XIX.)

Two plants that were not identified are used in the North Andaman for making baskets. The methods of preparing these will be described later.

824 291 The natives of the Great Andaman Division make use of the leaves of the *Pandanus Andamanensium* for making belts for women and ornaments that are worn on ceremonial occasions. These leaves do not seem to be used in the Little Andaman.

824 531 The pods of one or more species of *Dendrobium* are collected by the natives of both Great Andaman and Little Andaman. They are roasted in the fire, until the outer skin turns a bright yellow, and this is torn off in strips and used for ornamenting nets, baskets, rope, etc.

824 The above description includes all the more important vegetable substances used by the Andamanese for their rope, string, netting, and basket-work. There are many other substances that they might use if they wished, of the properties of which they are fully aware. Their knowledge of the trees and plants of the forests and of the peculiar properties of each is very extensive. They themselves say that they use only those that best serve their purposes.

283 The Andamanese make rope and string or thread, but in all cases it is only two-ply. Rope is made by men only, and is used for the lines of turtle harpoons, and was formerly used for turtle nets. The ropes made from *Hibiscus* fibre are very strong and durable, being quite as good as the best hempen ropes of the same diameter. In rope-making the *Hibiscus* or other fibre (*Sterculia* or *Grewia*) is taken and twisted into a long strand, either with the fingers, or on the thigh by rolling beneath the palm of the hand, short lengths of fibre being added until a single twisted strand of sufficient length and uniform thickness is produced. The middle of this strand is passed over a piece of wood held by the toes, one half of it being wound on to a reel (*kutobi* in Aka-Jeru) made by tying together crossways two pieces of cane or wood

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each about 20 cm. long and 6 mm. in diameter. The other half of the strand is loose, and is held (near the point where it is tied to the wood held in the toes) between the finger and thumb of the left hand, the rest of it passing across the palm, over the left forearm, under the arm-pit, across the back and over the right shoulder, hanging down loosely to the worker's right side. This arrangement is in order that the loose strand shall not become entangled or get in the man's way as he works. The reel is held in the right hand and is passed first under the left hand, then back again over it, the two strands being thus twisted into a firm two-ply cord. 283 •

The natives of the Little Andaman make rope in much the same way, but they pass the reel from right to left over the other strand and back under it, the twist being thus in the opposite direction from that used in the Great Andaman.

String or thread is made by both men and women. It is put to many uses, the chief being for binding the heads of arrows, harpoons and spears and the ends of bows, and in making nets, baskets, mats and personal ornaments. In making string the man or woman sits down with legs outstretched. Thin strands of fibre, varying in thickness according to the thickness of the string required, are taken and each twisted singly by being rolled between the palm of the right hand and the right thigh, the motion being away from the body. When a sufficient number of short single strands has been thus made, two of them are taken and placed together on the thigh, being held at one end in the left hand. The two strands are rolled together beneath the palm of the right hand, the motion being inwards towards the body. A well twisted thread is thus produced. When some 10 cm. or so have been thus twisted, the thread is rolled once beneath the palm of the hand in the opposite direction, i.e. away from the body, this action rendering it more compact. As soon as the end of the two strands that are being twisted is neared, two more are taken and joined on, first one and then the other, by being rolled in with the first two. Fresh strands are thus continually added as the string grows in length. String of any desired length is made in this way, of considerable strength and of surprisingly uniform thickness.

String is made in this way from the fibre of *Anadendron*, *Gnetum* and *Hibiscus scandens* in the Great Andaman Division, and from *Gnetum* and *ulu* fibre in the Little Andaman. In the Great Andaman string made from *Anadendron* fibre is rendered more durable by being waxed with black bee's-wax, but this treatment is not considered

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283 necessary for string made from *Gnetum* fibre or from *Hibiscus scandens*.

Ornamental rope is made for men's belts in the Great Andaman. *Hibiscus* fibre is twisted into a single strand. Around this strand strips of *Dendrobium* skin are wound spirally so that it is entirely covered, and the strand itself is twisted into a two-ply cord.

Two other forms of cord have been already mentioned, namely the bow-string, of twisted fibre of the *Ficus laccifera* in the Little Andaman, and of wrapped fibre of the *Anadendron* in the Great Andaman Division, and the special cord used in the Great Andaman for attaching the head of a pig-arrow to the shaft. The Andamanese make very little use of plaited cord. I have only met with it in personal ornaments made of *Pandanus* leaf in the Great Andaman.

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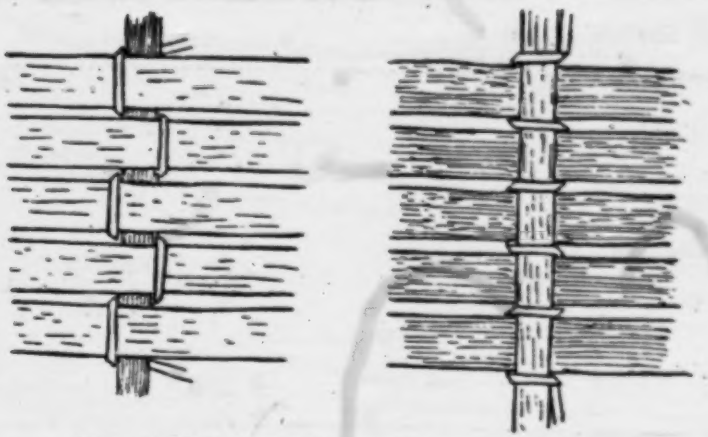

Fig. 29. Method of making bamboo mat, Little Andaman

The mat-work of the Andamanese is very simple. The natives of the Little Andaman make bamboo mats on which they sleep. Strips of bamboo of about 120 cm. in length and 75 cm. in width are attached by means of thin strips of cane to other strips of bamboo at right angles to the first series. The technique is illustrated in Fig. 29 which shows the back and the front of a portion of such a mat. It is that usually known as wrapped-twined work.

A similar technique is used in both the Little Andaman and the Great Andaman in making thatching of cane-leaves. There is a difference, however, the wrapping used in making thatch being that shown diagrammatically in Fig. 30.

1: Radcliffe-Brown E-5 (1906-1908)1922
AZ2 Andamans AZ2

One more form of basket-work remains to be briefly mentioned. The natives of all parts of the islands were formerly in the habit of preserving as trophies the skulls of pigs and turtle that were killed in the chase. The natives of the Great Andaman Division do not now trouble to preserve all the skulls of the pigs they kill, and they give as their reason for this that now that they have dogs the hunting of pigs is not a sport that requires any great skill. The Jarawa however still keep up the old custom, and they go so far as carefully to encase every skull in basket-work. As may be seen from Fig. 36 the basket-work in question is of simple wrapped work, the material being strips of cane.

It is of some interest to consider the different forms of technique used by the Andamanese in dealing with flexible materials. Rope and string are only made two-ply. It would seem that the Andamanese have not discovered that three-ply cord is stronger for a given diameter than two-ply. They have, in the bow-string of the Great Andaman, an interesting form of cord that may perhaps best be described as wrapped cord. The making of a rope involves the twisting of two strands of material around one another. The making of a wrapped cord involves the spiral wrapping of one strand of material round another. This is exactly the same process as "serving," and it is one that is used by the Andamanese in all sorts of ways. In serving their arrows with thread and in serving the ends of bows and the heads of harpoons the Andamanese have several different methods of making fast the ends, and I regret that I did not take more detailed notes on this subject. Their skill in handling this technique is shown in the strength of the binding on their arrows.

This spiral wrapping of one strand round a flexible or rigid object lies at the base of much else in their technique. We have seen that they make considerable use of wrapped-twined work. In this work a strip of material crosses at right angles a number of strips of the same or other material, and a weft is wound round the former, taking in one of the latter at each turn. There are two methods of doing this, either by simple spiral wrapping, as in the mats of thatch, or by what may be called "right and left" or "zig-zag" wrapping, as in the bamboo mat of the Little Andaman. A difference is also made according as the strip of material around which the weft is wrapped is rigid, as in the Little Andaman bamboo mat or in thatching, or flexible, as in the North Andaman mat, where it is one thread while the weft is another thread.

Wrapped work, in which a strip of weft is wound successively round one after another of a number of rigid stakes, is another very simple

2:Man G-5 (1869-1880)1932 AZ2 Andamans AZ2

285 [824] **Basket-work.**—1. Among the few remaining industries of these savages on which I have a few words to say is that of basket-making: these baskets are invariably made from the best specimens of the common cane called *pī·dga-* which is similar to, if not identically the same as that ordinarily used by our basket-makers and chair-menders.

2. After removing the leaves, part of the cane is cut into lengths of 3½ or 4 feet, and the "skin" or cuticle is shredded off into strips ¼ or ⅓ inch wide; the remainder of the cane is split into as long pieces as possible, and the "skin" is cut into strips somewhat narrower than the others; shorter lengths of the canes form the "ribs" or "stakes," in and out of which the strips are woven or "slewed."

3. In order that the basket may stand steadily[1] it has always a "kick" like our bottles, and to construct this is of course the first object; when the stakes have been firmly secured in the centre, they are placed over a small hole scooped out of the ground, and the heel of the basket-maker is placed on them while the weaving is commenced; when it has been carried on to a breadth of 2 or 3 inches the heel is removed, the canes reversed, and the work proceeds in the ordinary way until within an inch of the required depth, where, for the sake of appearance, the interweaving is omitted: the handle is then formed out of a strip of the bark of the *Melochia velutina* (*al·aba-*); stripes of *tā·la-ōg-* and *kòi·ob-* are usually added by way of ornamentation;[2] no method of rendering them waterproof is known. Baskets are not converted into moulds for pottery; but sometimes, when travelling, earthen vessels are placed in a loose wicker casing, in order to protect them, and at the same time to facilitate their removal.

4. There is a marked difference[3] between the baskets made by the five *Jōjig* tribes and those manufactured by the *·yē·rewa-*; with the latter the work is more neatly finished, and the opening is small instead of being wide, as is the case among the former.[4]

5. Baskets are used for all sorts of purposes by men, women, and children, and, considering the rough usage to which they are subjected, last fairly well, for they seldom require to be renewed for several months: they are not used as strainers or colanders, the fine net (*chá·panga-*) serving this purpose.

●283 824 **String, &c.**—1. The Andamanese do not produce their stout cord (*bō·tma-*), string (*bō·tma-tā-*), or twine (*mó·la-*), from animal

[1] The *jāra·wa-* baskets are generally small at the base, and having no "kick" are not usually able to stand unless placed between logs of wood or other objects.

[2] The rim of these baskets is formed of a piece of *Uraria micrantha* (*ó·rta-tat-*) round which one or more strips of the cane above described are neatly twined.

[3] The reader is referred to the excellent sketch of an Andamanese basket (*vide* Plate VII. fig. 17).

[4] *Vide* Plate IX, fig. 14.

2:Man G-5 (1869-1880)1932 AZ2 Andamans AZ2

substances, but from the bark fibres of trees and shrubs, known to them by the names of *al·aba-* (*Melochia velutina*), *pī·lita-* (*Gnetum edule*), and *yō·lba-* (*Anadendrum paniculatum*). The first of these is found growing near the shore, where it seldom attains a height of 20 feet; it is from fibre obtained from the bark of this tree that their cinctures (*bē·tma-bā*), harpoon-lines (*bē·tma-*), and turtle-nets (*yô·to-tē·pinga*) are manufactured. When any of the articles have to be made or replaced, it becomes the duty of some member of the male sex to procure a smooth clean branch—one which is also fairly straight and free from gnarls being preferred—and to remove the bark; the cellular integument is next scraped with a *Cyrena* shell (*ū·ta-*) until the fibres which it encloses are laid bare: these are then placed in the sun, or before a fire, to dry; when ready for use (*i.e.*, when thoroughly dry) the ropemaker ties several of the filaments to his toe and proceeds with his work by winding another strand spirally round them, adding a fresh length from time to time. When special strength or durability is needed, a coating of black wax (*tō·bul-pūd-*) is finally applied. The yarn thus produced is termed *bē·tma-mai·anga-*. When a long piece of this has been made (say 30 yards), a large portion of it is wound round the two cross-sticks forming the *kū·tegbo-*.[1] The operator, having then seated himself with legs outstretched, places a stick or cane between the big toes of his feet, and over this bar he passes the *kū·tegbo-*, thus enabling him to wind it continuously round the other half-length of the yarn, which, for convenience sake, he has previously placed by his right side, so that it is drawn behind his neck and over his left shoulder as the work proceeds. After the first foot or so of the cord has been thus made, the operator holds or clutches that portion with his toes. It will be understood that in employing the *kū·tegbo-* in the above manner, it becomes necessary at frequent intervals to unwind a certain quantity from that implement, in order to enable the work to progress. The cord thus made is called *bē·tma-*, and this it is of which their harpoon-lines and turtle-nets are made. The *bē·tma-bā-* (lit., small *bē·tma-*), mentioned above, is made in the same way, but of course less fibre and a smaller *kū·tegbo-* are used.

2. For making hand fishing-nets (*kūd-*) and sleeping-mats (*pār·epa*[2]), the fibre of the *Gnetum edule* (*pī·lita-*) is used; in the preparation and manufacture of these, women exclusively are concerned; the first process is to cut a number of the trailers into lengths which are determined by the distances between the knots and joints: these are held against the

[1] "The cord (used for large nets, &c.) possesses the valuable quality of hardening in the water" (*vide* Mouat, p. 326).

[2] *Vide* Appendix B, item 65.

2:Man G-5 (1869-1880)1932 AZ2 Andamans AZ2

283 286 thigh, and the cuticle is removed by means of the *Cyrena* shell; the underlying white fibres are left for a week or ten days in the sun until thoroughly dry, when they separate readily, and are easily worked up into fine or coarse twine, as may be required by the manipulator.

283 824 3. The fibre of the *Anodendron paniculatum* (*yō·lba-*) is chiefly used for making bowstrings, reticules (*chá·panga-*), necklaces, and twine for arrow fastenings; its manufacture is accordingly not restricted to either sex. When the bark has been stripped off, in lengths of 8 to 15 inches, the operator presses the inner portion upon his (or her) thigh, and then rapidly but carefully passes a *Cyrena* shell along the outer surface until the fibres alone remain; these are then, as in the previous cases, dried in the sun, or before a fire; when a sufficient supply of material has been thus obtained, it is made into fine twine or, if not required for immediate use, wrapped in leaves in order that it may be kept fresh. Although apparently free [262] from any obnoxious properties, this plant, as well as the fibres obtained therefrom, until it is converted into twine or bowstrings, is believed by the Andamanese to render the flesh of a turtle uneatable if placed near it; consequently this meat, when inadvertently so contaminated, is thrown away; further, no one who has been collecting *yō·lba-*, or who has been engaged in preparing the fibre, can (for a period extending to three days) be allowed to cook a turtle, or even to accompany a party engaged [845] on a turtling expedition! Sharks and other dangerous fish are also credited with having so wholesome a horror or detestation of this plant (and also of *Cyrena* shells!) that the aborigines are in the habit of attaching some *yō·lba-*, or *Cyrena* shells (or both), to their cinctures as a safeguard when about to swim in parts believed to be infested by these creatures.

[531] 4. The yellow skin of the root of a certain orchid, called *rā-*, which is commonly found on trees near the shore, is often seen intertwined with their *yō·lba-* string, in personal ornaments, and occasionally in the decoration of weapons, but where strength is a requisite it is of course not used.

5. Bowstrings of *pī·lita-* and *yō·lba-* are made in the manner described in the manufacture of *al·gba-* rope, but ordinary string is made in the following manner:—a few of the prepared filaments are twisted into a yarn on the thigh with the palm of the hand; when two lengths have been obtained, they are together rolled into string of the desired strength, and beeswax is smeared over it to make assurance doubly sure.

6. Twine, made from the *yō·lba-*, is used in netting the fine chains (*rāb-*[1]) and the reticules (*chá·panga-*[2]); for turtle-

[1] *Vide ante* "Death and Burial," paragraph 5, and Appendix B, item 42.
[2] *Vide* Appendix B, item 22.

2:Man G-5 (1869-1880)1932 AZ2 Andamans AZ2

283 nets the stronger *al·aba-* is employed, while for the hand fishing-nets (*kūd-*[1]) string, made from the *pī·lita-*, is almost exclusively reserved. In this handicraft the Andamanese are especially skilful, and regulate to a nicety the size of the mesh by using the little or forefinger; it should be mentioned that their rude netting needles of bamboo (*pō·tòkla-*[2]) are not very dissimilar to those used in Europe. Sewing is to them an almost unknown art, but they describe needlework by the word *jâ·tke*, which expresses their manner of uniting the large *kâ·pa-* leaves, to form a screen, with the pliable stem of this leaf, and also their mode of repairing a canoe, holes being bored and strips of cane (*pī·dga-*) threaded above and below the crack, which has been previously filled in on both sides with *tō·bul-pīd-*.[3]

524 **Games and Amusements.**—1. And now, having passed in brief review their various arts and manufactures, I will bring my account of Andamanese life to a close with a brief description of their games and amusements.

2. Unlike many Eastern races they evince from their earliest years a partiality for active pursuits in which monotony or great bodily exertion are not entailed, and great was the delight of the children in the Orphanage when they were instructed in some of our English games, especially kite-flying, and see-saw;[4] it is at the same time curious to note that, though not borrowed from aliens, their pastimes, in many instances, bear close resemblance to those in vogue among children in this and other lands; notably is this the case with regard to those known to us as blind-man's-buff,[5] leap-frog,[6] and hide-and-seek.[7]

3. With respect to the first-named of these, large leaves, in lieu of a handkerchief, are fastened over the eyes, and the difficulties of the "blind man" are greatly increased by its being obligatory for him to catch the person who blinded him, while being pulled about and jostled by the rest of the players.

4. In "leap-frog," instead of stooping, one man squats on his heels while his companion bounds over him without touching him and takes the same position, to be in his turn jumped over.

5. Mock pig-hunting[8] after dark is another very favourite amusement; one of the party undertakes the *rôle* of the pig and, betaking himself to a distance, runs hither and thither

[1] *Vide* Appendix B, item 20.
[2] *Vide* Appendix B, item 67.
[3] *Vide* Appendix B, item 57.
[4] To this game they have given the name *ad-yē·nenga-*.
[5] Called by them *ijʼi-tâ·pa-lī·rnga-*.
[6] Called by them *koktâ·r-tidō·atinga-*.
[7] Called by them *ab-â·tanga-*.
[8] Called by them *ad-reg·ignga-*.

2:Man G-5 (1869-1880)1932 AZ2 Andamans AZ2

substituted. These three substances are melted and stirred over a fire until of a proper consistency; the pigment is then poured into small pots or large shallow shells, where on cooling it soon hardens. When required for use the pot or shell is placed on the fire and the melting wax applied according to fancy. The string fastenings of fish and pig arrows (items 4, 5, and 6) the turtle harpoon (item 10), and pig spear (item 9), are protected with a coating of this wax, and it is applied ornamentally to the food trays (item 72), nautilus shells (item 14), and the outside of buckets (item 13); it is also used for closing cracks in buckets, and in canoes if not too large.

63. *chū·lnga-*. olive-coloured clay found in small springs in the jungles: in its liquid form it is applied medicinally after the manner of *kòi·ob-chū·lnga-* (*vide* footnote [5], p. 184).

64. *yō·lba-*. (*Anodendron paniculatum*), the fibre of which is much valued on account of its excellence; string made from it is used for bowstrings and arrow fastenings, for netting the *châ·panga-* (item 22), and *rāb-* (item 42), for making their various necklaces and other personal ornaments, and also for the fastenings of knives and turtle harpoons.

65. *pī·lita-* (*Gnetum edule*), from the fibre of which string is prepared and used almost exclusively by women, chiefly for the manufacture of the *kūd-* (item 20), and *pār·epa-* (item 23); it is not sufficiently strong to serve as arrow fastenings, though on an emergency it is sometimes used for this purpose.

66. *al·aba-* (*Melochia velutina*). From fibre obtained from this tree rope is made for turtle-lines (*bē·tmo-*), nets, and cables, the preparation and manufacture of which devolve on men; the bark of this tree also furnishes the material of which the *chīp* (item 24) or baby-slings are made.

67. *pō·tòkla-*.[1] Netting-needles, made in two sizes of bamboo and used in making nets.

[NOTE.—The turtle-net (item 12) is not made with netting-needles, but with two sticks called *kū·tegbo-*.[2]]

68. *pô-chô-*. Bamboo knives, which are shaped into form while green and then dried and charred over a fire to render them sharp and fit for use; formerly they were employed for cutting meat and other food.[3]

69. *wai-chô-* and *pór-chô-*. Two varieties of cane knives, but similar to item 68.

70. *tō·ug-*.[4] Torch, made by women, of resin wrapped in a large leaf (*Crinum lorifolium*); it is used when fishing, travelling, or

[1] *Vide* Plate IX, fig. 12.
[2] These are made of a light hard wood known as *bē·rewil-*.
[3] *Vide* Plate IX. fig. 10.
[4] *Vide* Plate VIII, fig. 66.

765 neck, usually, but not always, by the widow, widower or nearest relative. Mourning closes with a ceremonial dance and the removal of the clay. The ceremonies connected with the disposal of the dead are conventional, reverential and by no means without elaboration in detail.

V. Arts.

324 **Stone Implements.**—The only stone cutting implement known to the Andamanese is the quartz flake chipped off, never worked, and held between the fingers for shaving and tattooing, and shells and fish bones are used for the small blades of the peculiar adze of this people, and for arrow points, scraping and cutting. A *cyrena* valve is the ordinary knife and scraper. Hammers, anvils, hones, and oven-stones consist of natural stones. They have never made celts.

177 The ends of glass bottles for some years, and iron from wrecks for a long time past, have been substituted for the indigenous implements, when and where procurable. The object of the long series of murderous raids made by the inland Jarawas on the outlying parts of the Penal Settlement has now been proved to have been made in search for iron. The implements on the whole are coarsely and roughly made.

411 **Weapons.**—The weapons of the Andamanese are bow and arrow, harpoon, fish spear, pig spear, and they have never had any notion of poisoning the blades, which however sometimes inflict dangerous septic wounds from dirt, though as a rule they are kept bright as a matter of pride. Barbed arrows and harpoons with loose heads are used for catching and pulling up game in the jungles and marking where turtle or large fish are sinking.

Domestic Arts.—Excellent information with illustrations on the domestic and other arts of the Andamanese is to be found in a minutely accurate work, Man's *Aboriginal Inhabitants of the Andaman Islands.*

283 **String and Netting.**—String for nets and all purposes is twisted, often neatly, from the inner bark of creepers. Large nets of this string are made for driving turtle and hand-nets for prawns and small fish and for wallets. Stout cord is made from the inner bark of the *melochia velutina.* Whole, split and scraped canes are used as binders.

285 **Weaving.**—The weaving is good, neat and stout, and baskets and mats are thus well made from strips of canes.

323 **Pottery.**—The unglazed circular clay cooking pots with rounded or pointed bottoms, to the Andamanese very valuable, are built up by hand, sun-dried and then baked, but not thoroughly, in the fire. They are often encased in basket work for safety. Their manufacture, form and ornament are typical of the Stone Age generally.

322 **Wood and Cane work.**—Buckets are hollowed out of wood or cut from the joints of the bamboo. Canoes are hollowed out of whole trunks of light, soft timber by the adze without the use of fire, do not last long and are only fair sea boats. They are however capable of holding many people and a good deal of light cargo.

301 **Ornamentation, Personal and Domestic.**—The personal ornaments made are—bunches and strips of fibres and leaves scraped, cut and hammered, fringes of dentalium shells and straw-coloured wreaths of hammered and roasted dendrobium bark. The bones, skulls and jawbones of deceased relatives are also used whole, or broken and scraped to fancy or requirement, as ornaments, besides necklaces of the bones of animals. Tattooing and painting the body are only ornamental to the extent that, in the latter case especially, deviations from the conventional designs are due to personal taste.

353 The only ornaments to dwellings and huts are the heads of turtle, pigs, iguana, paradoxurus killed in hunting. These are hung up partly as ornaments and partly as trophies, but not with any idea of record.

531 Every manufactured article has its own customary conventional line ornament in one or more of three colours and in one or more of eleven patterns approximately achieved only. The colours are red, white and brown from natural earths. The patterns are (1) chevrons, (2) close cross hatch, (3) wide cross hatch, (4) parallel lines, (5) parallels and chevrons combined, (6) lozenges, (7) plait or guilloche, (8) herring-bone, (9) cross cuts, (10) loops, (11) vandyke with scolloped bands and cross lines.

6: Cipriani E-5 (1951-1953)1961 AZ2 Andamans AZ2
Onge

515 people. Furthermore, the Onge skin is very soft and more elastic than is usual
[147] in human beings. For us, clothed and with a less resilient skin, a trip through the thorny Andaman forest means many small, bleeding scratches. Not so for the naked Onge. – To cover them with clothes would endanger their health. Nakedness inures them to the sudden changes of temperature so frequent in
[513] Little Andaman and preserves them from catching cold when sleeping, uncovered, on their rough, unprotected bed of boughs. As with primitives all over the world, clothes make them miserable and, I may add, very ungainly and dirty.

515 Part of their general negligence with regard to hygiene is their carelessness about their teeth. They never clean them. They do keep bamboo sticks,
[413] 1 mm thick and 8 cms long, tucked into their hair to be ostensibly used as toothpicks ; but the sticks, to tell the truth, are more of an ornament than a tool.
142 The Onge's teeth are so compact and sound that there is no space between
[164] them for food particles to collect. No caries or decay of any sort are to be noticed. In a number of skeletons that I dug up from under the beds in communal huts, the teeth gave evidence of one peculiarity : old people had worn them down to the root. The Onge habit of using teeth as working instruments,
[289] to prepare fibre for ropes and in many other circumstances – apart from their permanent chewing on hard foodstuffs – explains this fact.

515 As a consequence of never washing, the natives' hands are sometimes extremely dirty. The Onge themselves are conscious of this. I shall give an
226 instance. It so happened that I arrived in Nachugé, on the west coast, toward the end of March, when the sea was teeming with migrating sardines. In Little Andaman sardines can weigh up to a pound ; but a normal catch, obtained with small hand-nets cast from canoes among shoals of fish imprisoned by the low tide within the coral reef that surrounds the island, contains specimens of
[264] every dimension. All are eaten as soon as possible. The quantity of fish brought back to the camps on such occasions puts all inmates to work and induces everybody to abandon all other occupations for the time being. In the low tidal waters the men push their canoes from rock to rock, using them as receptacles for the abundant food so easily collected. In some "pockets" nets prove unnecessary : the fish is gathered in handfuls and rapidly thrown into the canoes. The hecatomb ends when the canoes are filled to the gunwales. In no other part of the world have I seen food made available to primitive people in such large quantities and with so little effort.

252 Back at the camp, the sardines are "graded" according to size and cooked immediately. They are not washed or cleaned, the inner organs are eaten to-
[263] gether with the flesh. Men, women and children feverishly take part in the
264 cooking ; the fish is boiled without salt. All the natives then plunge their hands
515 avidly into the heap of sardines. From time to time the women clean their
[231] hands by rubbing them on the *naquinēghē*. Very soon this garment becomes extremely smelly. Men and children clean their hands in a different way : by rubbing them on the dogs. On such occasions, everything and everybody smells of fish for days and days. The first to become clean again are the dogs, because they hate to be smeared with fish and wash themselves in the sea as soon as they have a chance.

11: Cipriani E-3 (1951-1955) 1966 AZ2 Andamans AZ2

their arched vaults of roots, strong enough to bear a man's weight without bending. In some places I had to travel hundreds of metres across them, clambering from arch to arch, before I could reach dry land and sweeter air (the air in the swamps is foul with the stench of dead fish, crustacea and debris of all kinds from the sea, caught in the network of roots). Among the roots swarm crabs of all kinds, including the blue crabs, while kingfishers and other brilliantly coloured birds dart gaily in after the easy prey.

Near the mangrove swamps, in the mouths of the rivers, giant fronds of the Nipah palm stick up out of the water here and there. The feathery fronds, standing several metres high, are used by the crabs to climb out of the water and tiny toad fish, (see p. 133) equipped with both gills for life under water and lungs for air breathing, like to cling to them for an airing when there are no stones handy. Every day these fascinating little creatures stay in the sun for hours before dropping back into the waters of the swamps and in some places they are everywhere, always ready to jump out of the water on to a convenient projection to have a look at what is going on.

The Andamans, with their luxurious growth of vegetation of all kinds, are an ideal place to study plant dispersal. I have already mentioned the *Ficus* and the mangroves, but there are many other equally fascinating plants. Some used by the Onges for the production of fibres are widely distributed from India to Malaysia and the Pacific. Among these are *Gnetum gnemon* and *G. macrocarpum*, generally spread by the doves which flourish undisturbed on Little Andaman. In April, when the winds come, swarms of curious elongated parachutes equipped with an air trap which causes their spinning flight are blown from *Pterocarpus dalbergoides*, which provides the well-known *padàk* wood. The weight of the seeds (the size of a pea) at the base of the parachutes and the effects of the air trap give them a horizontal, screwing flight which carries them far from the parent tree. I have seen these parachutes in the sea, hundreds of kilometres from the nearest land. Mathematically designed by Nature to trap the right amount of air, the tiny parachutes are barely ten centimetres long. Their efficiency is self-evident – *padàk* is one of the most widely spread trees in the archipelago, in the Nicobars and far beyond.

In the stagnant pools on Little Andaman I found a species of explosive fungus which closely resembles, if it is not in fact identical

11: Cipriani E-3 (1951-1955) 1966 AZ2 Andamans AZ2

they may be, and the strays of the Andaman forests howl unceasingly. Even in the Onge encampments the dogs howl enough to wake their sleeping masters; the only way to stop the noise is for the Onges to forestall it by taking their dogs into the family bed, fleas and all. There ensues silence, warmth and more fleas!

Hunting weapons of the Andamanese, the Semang and the Aetà were originally made by all three peoples in a similar way, common to all the Negritos. None have any defensive weapons as such; their bows and arrows, never feathered, serve as arms as well as for hunting and fishing. Shields are unknown and spears, rare in the Andamans and among the Semang, are apparently no longer in use among the Aetà; where they exist they are usually mainly for hunting. All three peoples, however, have the arrow harpoon.[1]

Their bows are all clearly derived from the same source. In the Andamans, only the Onges and Jarawas have remained true to the original form, local variations arising at a later date, and they afford additional evidence in favour of Little Andaman being the original springboard from which the Negritos entered Great Andaman.

All the Negritos make their bows from one piece of wood stripped longitudinally from the living trunks of large trees such as *Mimusops littoralis* or *Pterocarpus dalbergoides*. After they have been left to season the strips are patiently fashioned into the required shape; for this the Onges use the shells of *Cyrena* (the freshwater species, which are tougher). The bows are straight, thicker in the middle and gradually tapering towards the ends, and are usually 1·6 metres long, although there are exceptions. The cross section is the same throughout the length of the bow, varying from three or four centimetres diameter at the centre to two and a half centimetres at the horns. The inner surface is so slightly curved as to be almost flat, while the back is markedly convex. The blunt horns end in a 'shoulder and neck' stop to take the string, the neck projecting about one and a half centimetres beyond the shoulders – enough to hold the bowstring. The shoulder is formed by strips of *Ficus* bark wound round the bow, or the yellow fibres of *Dendrobium*; one shoulder is invariably larger than the other. The string itself, made from long thin strips of *Ficus* bark twisted together, has a very narrow loop on one end and a larger one at the other;

[1] See p. 86.

11: Cipriani E-3 (1951-1955) 1966 AZ2 Andamans AZ2

411
[283] when stretched the string remains held in place by the two loops, one too small to slip over the lower shoulder, and the larger one held firm on the upper shoulder by the tension of the string.

184
411 When the bow is strung, it is placed upright with the lower horn firmly on the ground, the string already looped on to the small shoulder. The top of the bow is forced down (either hand being used indiscriminately), a foot being pressed against the grip to help it bend; the other end of the string, with the large loop, is then run up the stave and slipped over the larger shoulder, where the tension holds it firm. Considerable individual variation may occur in the art of making the bow and preparing the string and also in the actual stringing. In the Onges, apart from the size of the bow, the variation never went beyond slight differences in the curvature of the inner surface and back, the former being in a few cases quite flat, or even concave, as in the Jarawa bows. Neither the Onges nor the Jarawas, including those on North Sentinel, decorate their bows in any way, but the Arioto like to make a series of small straight cuts on the horns, on both the inner and outer surfaces and sometimes even cover the bow with bizarre red and white lines, which wear off very quickly with use. There appears to be no real difference between Onge and Jarawa bows, except that the latter tend to be larger, in keeping with their intended use as hostile weapons.

From the original Negrito bow of Little Andaman the so-called S-bow of the Arioto evolved as the result of a number of minor innovations. The basic principle remained the same, but in an effort to take greater advantage of the elasticity of the wood the rudiments of the distinction between the two horns later developed into a distinction between the two halves of the bow.

The unique modification which the original form of bow underwent on Great Andaman turned the stave into a composite of two spear-shaped halves, the upper almost straight, the lower slightly curved. At the horns the bow is still almost round in section, flattening as the 'spear' broadens out; the general dimensions and shape of the bow vary little between the Arioto of the south and north of the island, although the latter make the diameter at the horns rather larger. The two halves are joined at the centre of the weapon, forming a grip which is the thickest part of the bow. The simple difference in the size of the shoulders in the Onge bow now

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becomes more complex; the upper horn is more pointed than the lower, and there is a difference between the upper and lower halves of the bow, as it is necessary to prevent the loops of the strings slipping on the bow. The bow string is made not from *Ficus* bark, as in the Onge bow, but from thin *Anadendron* fibres, twisted together and waxed with beeswax; it has the usual loop at each end, and the bow is strung with the help of the foot as in the simpler version. When strung, this type of bow becomes S-shaped as a result of the variations in elasticity arising from the spear-shape of the two halves, but when drawn it assumes the normal shape. The fact that it is easier to draw an S-bow than a single-curve one, without any loss of propulsive force, is an interesting mechanical point.

The bows are only strung when required for use, and in the normal way neither they nor the arrows are ever seen by outsiders; they disappear up into the roof of the communal hut, or into the bushes round the temporary camps. Even with friendly Onges I had to ask specifically to see them, or surprise their owners out hunting.

The external influences to which the Semang and Aetà have been subjected have been strong enough to make them to a large extent forget their original form of bow, which has however survived alongside a large number of cultural inovations. The differences, for example, between the upper and lower extremities of both bow and string have persisted, and the shoulder-and-neck stop (although this is now made by notching the bow-stave deeply) so that we may reasonably assume that a close study of the Onge bow will give us the essential characteristic of a very ancient form of the weapon. The greatest modification to the original form is the one which has been made on North Andaman, and in an attempt to improve the effect of separate curving of the two sections selected trees are deliberately trained for the purpose, the cut wood being seasoned slowly over heat and smoke, paying particular care to the parts which will take the greatest strain. As a result the 'give' in the bow is markedly increased. But even here no fundamental alteration has been made in the design of the weapon.

The Onge bow, therefore, represents the forerunner of the somewhat more highly evolved type (now dying out with their owners) on Great Andaman, and adds further support to the evidence for

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screams of a wild boar can be heard for hundreds of metres, drawing the hunters in from all sides, eager to take it alive. If it proves to be a large male, whose tusks can inflict appalling injuries, the hunters kill it at once with a spear or with a third type of arrow which has a long fixed head. This type of arrow, which does not differ greatly from those found in other parts of the world, is still used by some of the Andamanese against human enemies.

The shaft of the arrow harpoon is made preferably from *Tetranthera lancifolia*, very common all over the archipelago. The wood for the shafts has to be straight, very slender at one end, where a notch is cut half a centimetre deep to take the cord, and a little thicker at the other, which is hollowed out for about one centimetre to take the head of the weapon. Splitting of the wood at the ends is, as usual, prevented by binding the shaft with *gnetum* fibres, twisted into thread and waxed with beeswax.

The efficiency of the harpoon depends on the double-strand cord, extremely strong, made from *Hibiscus* fibres. One end is fixed on to the shaft, five centimetres from the point at which the foreshaft enters it, and the other to the foreshaft, two centimetres from the base, with a thirty-two centimetre loop of cord between the two fixings.

The harpoon blade, now made of iron, is eleven centimetres long and spear-shaped, ending in a series of barbs. The haft of the blade is bound tightly on to the short foreshaft, also eleven centimetres long, which is scraped thin at the end so that the haft can be bound on smoothly. The complete weapon mounted for use is about eighty-eight centimetres long overall in the Onges and Jarawas, and slightly shorter, about sixty-five centimetres, in the Arioto.

To prepare the harpoon for use the slack of the cord is wound firmly round the shaft, and the foreshaft with the blade attached is forced in. As the harpoon strikes, the shaft becomes detached and the victim, firmly held by the barbed arrow head, drags it along on the end of the cord until it catches in the undergrowth and holds the animal fast.

There is little difference between the arrow harpoons of Little Andaman and Great Andaman, and what difference there is affects only the dimensions, the type of cord, and the form of the barbs. The basic principle remains the same wherever it is found; all the Negritos, including the Semang and Aetà still use it, although these

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two have added feathers, and poisoned tips, in imitation of neighbouring peoples.

For the capture of large fish and animals such as turtles, dolphins and dugong, the Onges and Arioto use not the arrow harpoon but the spear harpoon. Brown saw none of these among the Onges he studied in Rutland, and consequently assumed its absence on Little Andaman. The Onges carry as little as possible on their sea voyages for the sake of speed, and would not therefore take spear harpoons (used only for marine hunting) with them on trips to Rutland, which they visit only for the purpose of hunting pigs and not to fish, or to hunt marine animals. They certainly have, and use, spear harpoons even today; I myself have been with the Onges and seen their harpoons used from the canoes. I had ample opportunity to admire both the effectiveness of the weapons and the accuracy of the throwers.

The greater structural and operational simplicity of the spear harpoon, in comparison with the arrow harpoon, leads one to suppose it the older of the two. Its cord is made of tough *Hibiscus* fibres, and with the aid of these and a straight shaft about six metres long and little over four centimetres in diameter, even the humblest of nails, seven centimetres long and three millimetres in diameter, can become the point of a spear harpoon. It is fixed into the shaft (usually of mangrove wood) which is hollowed out at the thinner end to take it, and with a cord up to a hundred metres long or more attached to the nail two centimetres from the head, the spear harpoon is ready for use – shaft, point and cord.

When the harpoon is to be used for turtles, no barbs are needed, as the point is driven so firmly into the shell that blocks of wood have to be carried in the canoes to knock it out for re-use.

The harpoon throwers stand ready on the platform jutting out fore and aft of the canoes (see p. 122), the free end of the cord is tied to one of the booms to prevent it being jerked out of the canoe as the victim tries to escape, and the slack is coiled in the bottom of the canoe. The thrower holds the cord against the harpoon as he waits for the right moment and then throws. As the harpoon strikes, the point detaches from the shaft, which floats on the water till picked up – often to be used as a punt-pole in the shallow waters of the coral reefs as the canoe follows the victim, now held firmly on the end of the cord.

222 [423] when the supply of *dorsata* diminished at the onset of the stormy season, when the gales lashing the branches dislodge the nests and hurl them to the ground.

Unlike the beekeepers of the civilized world, the Onges make no attempt to protect their bare bodies while they are extracting honey. Yet they are never stung, and watching them one felt in the presence of some age-old mystery, lost by the civilized world. I watched an Onge from the ground with my field glasses as he climbed up a tree to a *dorsata* nest and saw him, as it were, blowing on the bees round about the trunk as he went up. As he approached the nest they huddled round it in a protective cloud, hiding it completely from view. Suddenly, as the Onge's face came within twenty centimetres of the boiling, humming mass, the bees seemed to shrink back as he blew on them. Not one moved to attack as he gouged out the combs with his bare hands, throwing handfuls of bees out into the air. And then the whole cloud of bees gathered into a swarm and left the tree and the nest to the interloper.

The Onge stripped lengths of green bark from the lianas growing [283] up the tree, and then broke the nest up. Tying the combs to his back with the strips of bark he lowered himself down to the ground, 222 swinging like an ape from liana to liana. There, while his friends 515 fell on the honey, he calmly cleaned himself down – with not one sting on him. This he did in a way unusual for the Onges, filling his mouth with water from a nearby pond and squirting it into his cupped hands, until he had enough in his hands for a perfunctory rub down. This method of washing is common in primitive peoples but advanced for the Onges. When they have been painting themselves with the usual fat and ochre paste, for example, the women will clean their hands to their satisfaction by wiping them on their *naquineghe*, while the men use the dogs' coats as a convenient towel.

222 In March 1952, in the middle of the honey season, I was on the west coast of Little Andaman, near Nachuge. Twelve Onges were with me, and when they noticed a bees' nest high up in a *Pterocarpus* the youngest of them at once climbed up after it. As soon as he saw that the combs were full of honey, with no larvae, he called for a [283] container. With amazing speed he tore enough bark off the nearest liana with his teeth to make a cord over twenty metres long and the hollowed-out log was soon hauled up, to come down again crammed with combs brimming with pale golden honey, very

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eyes to crack their skulls – and thrown into the small basket every woman carries on her back, hung from the usual cord round her forehead.

The fish the women catch are all the varicoloured species which always haunt the coral shallows, bright red, blue, green, black and white in a wonderful range of stripes and patterns. The Onges eat them with no respect for design, and I must confess that I myself found them very good.

Besides fish, the women catch molluscs, crustacea, lobsters, crayfish, crabs and even some species of hermit crabs (the latter are baked alive in their adopted shells, and only the abdomen is edible). Lobsters are plentiful, some striped with green and blue and weighing up to half a kilogram, with a very delicate flavour, but the Onges do not seem to be greatly interested in them. They prefer fish and crabs; *Pterocera*, again baked alive, are great favourites and I quite saw why the kitchen-middens are full of *Pterocera* shells.

The men prefer to fish with bows and arrows made specially for the purpose, and very different from those intended for game, the shaft being made of very light hollow cane, instead of the solid wood demanded by the mechanics of the game-arrow. The fishing arrow is made of three parts, bound tightly into one. The point, now made of iron,[1] is about four to five millimetres in diameter and twenty to twenty-five centimetres long. Like that of the arrow harpoon, it is fixed by a tightly bound thread to a small stick or foreshaft about fifteen to twenty centimetres long and slightly smaller in diameter than the shaft proper (usually eighty to eighty-five centimetres long), so that the overall length of the finished arrow is a hundred and ten centimetres or more. The binding threads are held fast by a mixture of resin and beeswax, coloured with ochre in the case of new arrows.

I tried giving the Onges hooks and lines; they were intrigued by my demonstration of how to leave lines overnight and draw them in next morning loaded with fish, but no more. This was not superstition or fear of the unknown but sheer adherence to established custom. They have neither incantations, amulets nor propitiating

[1] Formerly made of *Tridacna*, or very hard wood. Some of the latter are still to be found, but all the other types of head – fish quills, bone, and *Tridacna* – have disappeared long ago.

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Once struck by the harpoon the turtle is trapped by the cord tied to the head of the harpoon while the shaft, detached by the blow, floats on the water till it is picked up. The target is large, the distance is short, and so the harpoon never fails.

The spirits of the night do not walk on the sea, so the turtle-hunting expeditions are all sea-borne, the canoes setting out to meet the turtles as they come in towards the shore to mate. When the moon is high the tropical seas are as clear as by day; on dark nights the resin torches carried in the canoes light the sea for a fair distance. Beyond their range, the turtles as they swim disturb tiny marine creatures, which promptly emit their phosphorescence, revealing clearly to the Onges the path of their unsuspecting victim.

These torches are about one metre long and fifteen centimetres in diameter, made of twisted palm leaves tightly bound with reed fibres. Inside is a carefully balanced mixture of resin and embers, which burns with a very bright flame. In recent years a variant has been introduced – huge lumps of gum were driven on to the shores of Little Andaman from some unknown distant shipwreck, and the Onges, having discovered how well the unknown substance burned, began mixing it with the embers in their torches. I can still see the Onges' child-like pleasure as they admired the effect of their new product, a gift, like their petrol-drum cooking-pots, from the sea.

Their torches for use on land are much smaller – about thirty centimetres long and ten centimetres in diameter, but made in exactly the same way. It is interesting that similar torches are found eastwards throughout Polynesia and are used everywhere in the same way for hunting turtles and their eggs from the same type of canoe.

The victim, struck as it comes to the top to breathe, disappears at once into the sea, dragging the cord with it. In less than ten minutes, however, it reappears on the surface and is hoisted aboard, often almost helping itself into the canoe with its thrashing flippers. Quite often turtles are caught while they are asleep on the surface, or mating, in which case the pair are easily captured. And in stormy weather, when the high seas make it difficult for them to negotiate the reefs back to the open water, the Onges can catch them and 'ride' them to the shore. I have seen the surviving Arioto do this,

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in the division of all meat. Certain cuts are the property of the hunter, of his helpers, and of his relations and after them, in order, of the remaining members of the group; everyone knows his position in advance. Each portion is tied round with a reed fibre, which is allowed to dangle out over the top of the communal cooking-pot ready to haul the meat out when required.

In the case of pork the prized cut is one which comprises the kidneys and the surrounding fat; this fat is called *cian*,[1] and is very highly esteemed. Some authors (Brown, for example) have stated that turtles and pigs are always cut up with the head ritually pointing towards the sea as otherwise the meat would be considered inedible. This is certainly not the case on Little Andaman, and I have never seen any such directional ritual among any of the Negritos, all of whom practise division of meat according to a prescribed order of precedence. Turtles at any rate are slaughtered facing up the sloping beach simply because it is then easier to hold the beast from behind and avoid its bite. Ritual there is, but usually with a good practical basis.

More ritual attaches to the way in which the game is carried back to the camp, and the wood to be used for the cooking fire. Pigs, killed and gutted, are tied in ropes made of *Ficus laccifera* and carried somehow on the back of the victorious hunter. If it is not far to the camp he will not bother to tie up the snout and feet, but otherwise the front and back legs are tied, and one long cord joins both pairs to the snout – again a practical ritual, giving the hunter a more compact weight to carry.

Man, Portman, Brown and others all say that each type of game has to be cooked over a fire of a particular wood. My own observations showed that whereas the ritual of dissection is inviolable, the Onges always use the first wood that comes to hand, regardless of its source, taking as usual the line of least resistance. This is again in keeping with the tendency of primitive peoples to expend only the very minimum of energy to achieve their object. Their religious beliefs and superstitions are not carried to the limit, simply because

[1] It is interesting that in their very restricted world the Onges have few standards of comparison or words to express condemnation or approval, and this word *cian* is used as one of high praise, applied to inanimate objects, animals, and people alike. The precise qualities which are conveyed by the word are difficult to evaluate in the absence of fuller knowledge of the Onge language.